

Mining case study

Brick Works, Clay Pits & Quarries Cardiff



Regional Statistics

- 21.11% of all properties in Cardiff lie within our non-coal alert area.
- 43658 properties potentially affected by former non-coal mining activity
- 15 mining cavities recorded within the city.
- 206 BGS BritPit records.
- 17 natural cavities (excluding sinkholes).

The Issue

The city of Cardiff has undergone enormous transformation in recent decades and it is easy to miss the risk posed by historic mining legacy, given the extent of residential development and commercial expansion.

But Cardiff has its own unique industrial legacy in the production of bricks, tiles and clay. The vast pits that were once worked by hand for the city's rich deposits may be a distant memory for older residents, whilst many will be unaware of their existence at all.

The Significance

Wales has a long, well-known history of coal mining. The deep, vast coal mines of the Welsh Valleys are synonymous with its industrial past and still evoke that sense today. But other minerals have been mined in other more surprising, urban areas like the Welsh capital. Cardiff boasts huge, modern retail complexes as well as tranquil green spaces with its parks, recreational grounds and nature reserves. It is these two parallels that will be the point of focus as we take a look at the city's hidden mining heritage.

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The eastern edge of Grangemoor Park lies to the west of the River Ely, an area of open greenland that was redeveloped in 2000 into the nature reserve it is today. Previously, the site had been used to dump up to four million cubic metres of commercial and household waste.

The former Lower Grangetown Brick Works is shown on early Ordnance Survey mapping, complete with four brick kilns as well as a short railway siding taken into the facility. Early maps record the brick works but with no definition as to any quarries or workings associated with it. Fast forward to an edition from 1901 and outlines are shown for a number of clay pits.

The areas of these workings have since been subject to extensive development including a number of modern retail units. Also, the redundant pit lies only a stone's throw from a row of houses constructed some time after 1995. In spite of being a relatively recent development, data used by developers on ground risk was still in its infancy. It emphasizes how close some modern homes have been built to past mining activity within modern, thriving and continually evolving cities.

Another prime example is the area surrounding the former Llandough Clay Quarry. It grew in various stages, with some areas worked in the early 1800s that were subsequently backfilled. The mine was then developed in a different direction, leaving no trace of the earlier workings on later mapping.

Because earlier records of the mines are hard to locate, it underlines the importance of having the most comprehensive set of historic land use data, together with an extensive Ordnance Survey map library at all available resolutions. If one of the older maps showing the earlier workings is missed, then any understanding of the quarry would be incomplete and the assessed risk to certain properties or land would be inaccurate at best and dangerous at worst.

The Solution

Groundsure's Mining Consultancy Team provides unique insight through its detailed research. We are able to obtain a greater understanding as to the quarry's history and development which allows us to assess the risk more accurately and intelligently. Understanding which area of the quarry had been historically backfilled compared to those that remain exposed or continue to have a visible face, will significantly enhance the clarity of the risk assessment and any advice.

In these examples, recognising the backfilled made ground close to the 1995-era properties at Grangetown or the location of early mine working at Llandough ensures our consultants can make a clearer assessment of any ongoing risk or be able to mitigate it.